



THE DEVELOPMENT OF THEORY OF MIND IN PRE-SCHOOL CHILDREN

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Abstract:

In the present work, an attempt is made, through the bibliographic review, to define and clarify the term "Theory of Mind", to determine the context in which this theory was originally developed, to briefly present the scientific theories that attempted to interpret its development and finally to describe the development of Theory of Mind in pre-school children, as evidenced by the international literature.

Keywords: theory of mind, pre-school children

1. Introduction

One of the main issues that Cognitive Psychology deals with, concerns the development of the child's thinking from birth to adulthood. During the 2nd half of the 20th century the theory for the development of the logical thinking of Swiss biologist and psychologist Jean Piaget dominated. Over the last 30 or so years his theory has been under constant investigation and questioning, as it is argued, for not taking into account the social context in which children live.

Man as a social being, feels a deep need for communication. This need is reflected not only in our interpersonal relations, but also in our relations with the wider society. A basic ability that we apply, not only when we communicate but also when we try to create or maintain our various relationships, is the ability to appreciate what another person thinks or feels about a particular situation. This ability, referred to in the literature as "Theory of Mind-ToM Theory" (Flavell, 2000), is not understood by the person, and allows them (to a lesser or greater extent) to interpret and predict the thoughts and actions of others, giving them the opportunity to adjust their own behaviour or even their own way of thinking.

Modern research shows that pre-school children have developed the Theory of Mind, which is the ability to put themselves in the position of others and predict their

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behaviour, based on their assumptions of how the other person thinks (Maridaki-Cassotakis, 2004).

2. Piaget's theory about the cognitive development of the child

Questions about the development of Theory of mind in pre-school children created an extensive field of research in the 1970s, especially after Piaget's studies on the development of socio-cognitive function in children. According to Piaget (a) knowledge is derived from the actions of the child in its physical and social environment, (b) knowledge is divided into physical, social and logical-mathematics, (c) mental development is performed in a series of stages which differ in quality, with each stage being essentially a reconstruction of all the previous ones (Koutsouvanou, 1994).

As Piaget argued, in the preoperational phase (2-2½ to 7 years): children are egocentric. They perceive the world from their own point of view and have serious difficulties in understanding the viewpoint or even the mental point of view of others. Precisely, just because of their egocentrism, they cannot get into the position of the other and understand that a person in another position has another perspective so that their thinking is dominated by "here" and "now" (Gardner, 2006).

This child of this age cannot understand the interrelation of things or take into account the different dimensions of reality, because each time they focus their attention on the dominant side of the subject is trying to think about. In addition, the toddler is unable to distinguish the whole of its component parts. According to Piaget, the thinking of young children is a metaphor, that is, it is directed from one specific topic to another without making generalizations (Maridaki-Kassotaki, 2004).

Moreover, young children have not yet reached objectivity, and interpret natural phenomena with animism (the air acts as it does because it has a conscience), the artificial construction of the natural bodies, i.e. all made by man or some divine existence, and magic, in the sense that between cause and effect there is no need to have an explanation (Koutsouvanou, 1994).

3. Criticism of Piaget's theory

In recent years, Piaget's views (as a result of his experimental procedures) on cognitive development at pre-school age have been revised. The criticism of his theory is that he does not take into account the context in which children live. The subsequent researchers argue that Piaget's study of cognitive development was conducted in a context that was not relevant to children.

According to the Bronfenbrenner ecosystem model (1979), the child "belongs" simultaneously to various subsystems (macrosystem, exosystem, mesosystems and Microsystems). For the Bronfenbrenner, the "framework" plays a key role in the cognitive development of the child. It concerns the environment of the individual (ecological environment), which consists of four consecutive levels that affect and complement each other.

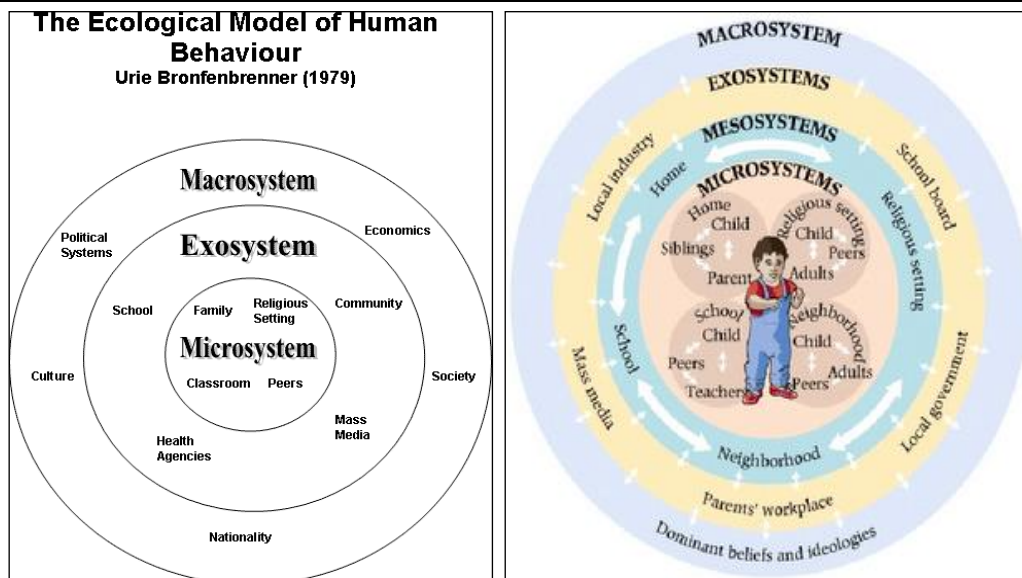


Figure 1: The Ecological Model of Human Behaviour (Bronfenbrenner, 1979)

The child is in the center of this model. The lower level includes the environmental microsystems (parents, their home, teacher/others) with which the child is in direct contact. The mesosystem consists of all the microsystems with which the child comes into contact and interacts (school, neighborhood, religious beliefs, etc.). It follows the exosystem (parental work environment, government, media, with which the child, though not in direct contact, is affected by them). Finally, the macro-system is considered to be the highest level of system encompassing all the foregoing and concerns the political, social and ideological contexts which inevitably affect children and all members of an organized society (Bronfenbrenner, 1979).

But also with regard to the child's egocentric discourse, Vygotsky argued that the children's original words are communicative acts mediating their dealing with the people around them, so considering that the children's linguistic experience has been social from the outset (Vygotsky, 1978). Her opposition to the toddler's inability to take the place of others and understand their point of view, Donaldson (1978) also voiced her opposition to Piaget's "three mountains" project, arguing that the project was far from infant experiences and therefore had difficulty understanding.

As a result of criticism, we think that what Einstein said about Piaget's theory is appropriate: *"So simple that only a genius could have thought about it"* (Papert, 1999).

4. Theory of Mind in preschool age

Since the 1980s, several researchers have started to investigate how children get to the point of perceiving the mental state of the "other", which is what others know, think and feel. Since then, the theory of mind has developed very rapidly, with a large number of empirical studies investigating precisely this ability of children.

The development of theory of mind in young children is an issue of particular importance for pre-school research, particularly for teachers of this age, and even today only few studies have focused on the latter and their educational practice. Very few

studies have looked into the links between the development of the theory of mind in pre-school children and the activities taking place in the preschool framework, with the exception of the dramatic game (Szarkowicz, 1998).

A series of research highlighted the common ground between evolutionary psychology and pre-school education. This was done mainly by theories with socio-cultural theories such as the Bronfenbrenner, Bruner and Vygotsky. Socio-political theories emphasize that the development of children is integrated into social and cultural interaction. At the same time, they emphasize that language and communicative interaction with others are vital for learning and development (Nicolopoulou & Weintrabe, 1998). The theories on learning and development that have Bigockian influenced have shaped the field of research and practice in pre-school education for over twenty years (Dockett & Perry, 1996).

Exploring the development of the theory of mind from a socio-cultural aspect, paved the way for a greater connection with existing philosophy and practice, as well as the context of pre-school education. In addition, a socio-cultural perspective leads research to a wide selection of methodologies, in addition to positive and experimental approaches. This may mean ethnographic studies, case studies, qualitative surveys, which can lead to new explanations regarding the development of the theory of mind in preschool children. In particular, analysis of mother tongue as a methodological tool has been recognized as an important methodological tool for interpreting the construction of the theory of mind in young children (Budwig, 1999).

Theory of Mind-ToM denotes a person's ability to understand their own mental state and that of others. It was used for the first time by Premack and Woodruff in 1978 (Schlinger, 2009) in studies carried out with chimpanzees to describe the ability of those animals to predict actions undertaken by an experimenter in order to achieve a specific purpose.

Premack and Woodruff (1978) argued that: *"...saying that one person he has a theory of mind, we mean that the person attributes mental conditions to himself and others"* (p. 515) and that this ability leads to one being able to predict each other's actions in a given situation. Mental status is about beliefs, desires, thoughts, fears and ideas (Bartsch & Wellman, 1989). When a person becomes aware that another person is in a certain mental state and believes that they will act in a certain way as a result of their mental state, then that person applies the theory of mind.

According to Wellman (1990), it is a question of an individual's ability to confer cognitive conditions on himself and others (beliefs, intentions, wishes and emotions) in order to interpret and predict behaviours.

Based on research by Premack and Woodruff, several researchers wanted to investigate when the theory of mind appears in humans. The first researchers Wimmer & Perner (1983) invented and applied to children the experiments - false belief which systematically study beliefs with which individuals predict, interpret and act accordingly. A test of false belief is what distinguishes beliefs from reality.

Research into the development of theory of Mind in pre-school children has concluded that, from the age of four, children are beginning to attribute to other mental

conditions of first order e.g. "*X believes that...*" (Wimmer & Perner, 1983, as cited in Misailidi, 2011), whereas from the age of five years they start to understand second-class mental situations e.g. "*X believes that Y believes that...*" (Perner & Wimmer, 1985; Sullivan, Zaitchik, & Tager-Flusberg, 1994, as above). Experiments by Astington and Lee (1991) have, however, shown that this ability grows at the age of four.

5. Theories on the development of Theory of Mind

As the theory of mind allows children to interpret and predict behaviours, it was expected that there would be a strong inter-disciplinary interest on the part of researchers and that ability to be studied through various research treatments, such as: wrong-thinking projects (Wimmer & Perner, 1983), discrimination of reality - appearance projects (Astington & Jenkins, 1999), recognition of the visual perception or opinion of others (Pratt & Bryant, 1990) and deception games.

Psychologists, in their attempt to interpret the theory of mind in children, have come up with various theories, the main points of which are listed below:

A. Domain - specific theories - Specialized Field Theories

They refer to specialized information processing systems and specialized learning mechanisms, with the aim of interpreting people's ability to process information from their social environment. These theoretical approaches include:

B. Theory – theory view

The theorists tried to explain the mental development of children with this theory. They argued that our knowledge of understanding does not include an official scientific theory, but an atypical, everyday, fundamental theory. So Bartsch and Wellman (1995) argued that children start with a psychological desire, then moving to a psychological desire-belief, finally reaching the psycholirical desire-belief of adults in which one gets to the point of acknowledging that what people believe or want ultimately affects the way they behave. These theorists believe that experience plays a crucial role in the formation of the theory of the mind by children (Gopnik & Meltzoff, 1997; Gopnik & Wellman, 1994; Perner, 1991; Wellman & Gelman, 1998; as cited in Flavell, 2004).

On the contrary, the theorists of **modularity theory** argue that the concepts that make up the theory of mind exist, constitute an endogenous database and are not built with the experiences gained by the individual. They disagree with the view that the theory of mind is developed in stages and they consider it inherent and triggered by appropriate environmental stimuli (Scholl & Leslie, 2001).

Harris (1992) and others proposed a third approach: **The theory of cognitive simulation theory**, according to which children are able to calculate the mental state of other people through a kind of cognitive simulations. So they think that the child does not need to have a theory to interpret or predict the behaviour of another person. What they have to do is build a model in their mind. For Harris the cognitive simulation

mechanism is inherent, activated from the early years of the child's life and improved through experience.

A number of developers believe that the failure of children in experiments of false belief and other aims of the theory of mind may be due to errors in the implementation process. Thus improving the executive function of children with age can help children to acquire the basic skills of the theory of mind (Hughes, 1998).

Another important aspect is **the linguistic development and modular effect of language and interpersonal communication**. It is easy to imagine that language skills can in various ways help the development of the theory of mind in children. People give out information about their own mental state or their fellow human beings, through conversations and stories that help the child realize that mental states change through verbal inputs. Language is also the tool which helps to think about different mental situations and behaviors.

Since the early 1980s, there have been a number of studies involved in thinking during childhood. In particular, the conclusions are as follows:

a. Visual perception

Children during the early years of the pre-school period have already realized that a person can see an object only if their eyes are directly targeted at the object and there are no obstacles between the person and the object. Later, during the pre-school period, they take a step in recognizing that the same thing may appear differently in two individuals if they look at it from a different position (Flavell, 2004).

b. Desires

At the age of three, children not only use the right conditions to express their desires, but they seem to be able to distinguish simple causal relationships between emotions, desires and actions.

c. Emotions

It is now certain that pre-school children attribute internal feelings to people who show such feelings (Wellman, Harris, Banerjee, & Sinclair, 1995). Later children understand emotions more, for example, they realize that people do not always feel what they are showing and that people's emotional reactions to an event may be influenced by previous emotional experiences with similar events or may even be affected by their current mood.

d. Knowledge

For children at the beginning of pre-school age, it seems to be unclear what it means for someone to know something, and how knowledge is acquired.

e. Thought

Children acquire the basic knowledge and skills of thought during the early years of pre-school age (Wellman, Hollander, & Schult, 1996). They interpret thought, for example, as an internal human activity that refers to fictional or real things. However, there are

considerable knowledge and skills that preschool children do not have in terms of thought.

6. Conclusions

There is no doubt that all of us in our daily lives are constantly trying to predict and interpret the beliefs, desires and feelings of the people around us, and this seems to be one of our main concerns! This ability is called the Theory of Mind and is considered one of the most studied and controversial cases of contemporary psychology. At the same time, the ability to recognize one's own mental state, but also their fellow human beings', is central to human consciousness.

The most important development during cognitive development in pre-school children is the development of theory of mind. Research has shown that from the age of four, children are beginning to attribute to other mental condition.

Research on the Theory of mind has attracted the interest not only of developmental psychologists, but also of other researchers in fields such as psychiatry, philosophy, neuropsychology, social, clinical and cognitive psychology, as well as education. Researchers, in their attempt to interpret the theory of the mind in children, have come up with various theories, such as theory – theory view, modularity theory, simulation theory.

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